

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

EXAMINER	DATE CONSIDERED
----------	-----------------

A10	Axelrod, H.R., "Embryonic Stem Cell Lines Derived from Blastsocysts by a Simplified Technique," Developmental Biology, 101:225-228 (1984).	Bazzer, F.W., et al., "Fertilization, Cleavage and Impregnation," in Reproduction in Farm Animals, 5th ed., ed. Hafez, E.S.E., Lea & Febiger, Philadelphia, PA (1987).	A11	Bearden, J.H., et al., "Gestation," Applied Animal Reproduction, pp. 85-98 (1980).	A12
-----	--	--	-----	--	-----

OTHER ART (Including Author, Title, Date, Pertinent Pages, etc.)

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS/SUBCLASS	TRANSLATION YES NO
A4	EP 0169672	01/1986	EPO		
A5	WO 90/03432	04/1990	PCT		
A6	WO 90/01541	02/1990	PCT		
A7	WO 92/22646	12/1992	PCT		
A8	GB 2,213,831	08/1989	UK		
A9	WO 94/03585	02/1994	PCT		

FOREIGN PATENT DOCUMENTS

A1	5,175,383	12/1992	Leder et al.	82/2	02/17/89
A2	5,175,384	12/1992	Krimpenfort et al.	82/2	12/05/88
A3	5,175,385	12/1992	Wagner et al.	82/2	09/03/87

REFERENCE DESIGNATION U.S. PATENT DOCUMENTS

LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT		APPLICANT(S): Mattheuw B. Welleter USE SEVERAL SHEETS IF NECESSARY	
FILING DATE March 24, 1995	GROUP ART UNIT 7823/5	08/410,539	SERIAL NO. CASE NO.
7823/5	08/410,539	SERIAL NO. CASE NO.	

2

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

EXAMINER <i>[Signature]</i>		DATE CONSIDERED <i>3/13/97</i>
<p>A22 Bbeert, K.M., et al., "Changes in Domestic Livestock through Genetic Engineering," in Current Communications & Cell & Molecular Biology, Animail Applications of Research in Mammalian Development, ed. Pedersen et al., Cold Spring Harbor Laboratory Press, pp. 233-266 (1991).</p> <p>A21 Doebechmann, T., "Embryonic Stem (ES) Cells," Developmental Blastocyst-Cell Imaging in Mammalian Embryos," in Animal Application of Research in Human Development, eds. Pedersen, R.A., et al., Cold Spring Harbor Laboratory Press, Plainview, NY (1991).</p> <p>A20 Cruz, Y.P., et al., "Origin of embryonic and extraembryonic cell lines in mammalian embryos," in Animal Application of Research in Hemophiliac Factor IX (1989).</p> <p>A19 Clark, et al., "Expression of transgenic sheep," Biotechnology, Vol 7:487-492 (1989).</p> <p>A18 Clark, A.J., et al., "Germ Line manipulation: applications in agriculture and biotechnology," Transgenic Animals, p. 250, Grossfeld, et al., eds., Academic Press Limited (1992).</p> <p>A17 Capocchi, Mario R., "The new mouse geneetics: Altering the genome by gene targeting," Trends in Genetics, 5(3):70-76 (1989).</p> <p>A16 Brinster, et al., "Targeted correction of a major hibitocompatibility class II gene by DNA microinjection into mouse eggs," Proc. Natl. Acad. Sci., 86:7087-7091 (1989).</p> <p>A15 Bradley, A., et al., "Formation of germ-line chimeras from embryo-derived teratocarcinoma cells lines," Nature, 309:255-256 (1984).</p> <p>A14 Black, G.T., et al., "Single-Base Polymorphisms and DNA sequence of the Porcine α-Lactalbumin 5', Flanking Region," J. Dairy Sci., (Suppl. 1):946 (1994).</p> <p>A13 Bishop, Jerry E., "Sheep-Cloning Method Holds Promise of Fast Introduction of Livestock Traits," News Article, 1996.</p>		
OTHER ART (including Author, Title, Date, Pertinent Pages, etc.)		

LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT			(use several sheets if necessary)	
SERIAL NO.	CASE NO.	FILED DATE March 24, 1995	GROUP ART UNIT	APPLICANT(S): Mattheu B. Wheeler
08/410,539	7823/5			

3

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered.

EXAMINER B. WHEELER	DATE CONSIDERED 3/13/97
------------------------	----------------------------

A33	Jasbin and Berg, "Homologous Integration in mammalian cells without target gene selection," Genes & Development, 2:1353-1363 (1988).
A32	Hooper, M.C., "Teratocarcinomas and Embryonic Stem Cells: A Laboratory Manual," Oxford, UK, 51-70 (1987).
A31	Hogan, et al., "Isolation of pluripotent stem cell lines," Cold Spring Harbor Laboratory - Manipulating the Mouse Embryo: A Laboratory Manual, Section E:205-218 (1986).
A30	Hasty, et al., "The length of homology required for gene targeting in embryonic stem cells," Molecular and Cellular Biology, 11(11):5586-5591 (1991).
A29	Handyside, A., et al., "Towards the Isolation of Embryonal Stem Cell Lines from Sheep," Roux's Arch., Developmental Biology, 185:185-190 (1987).
A28	Haggen, D.R., et al., J. Anim. Sci., 69:1147-1150 (1991).
A27	Gebslter, A., et al., "Transgenesis by means of blastocyst-derived embryonic stem cell lines," Proc. Natl. Acad. Sci. USA, 83:9065-9069 (1986).
A26	Frohman and Martin, "Cut, Paste, and Save: New approaches to altering specific genes in mice," Cell, 56:145-147 (1989).
A25	Flake, A.W., et al., "Transplantation of fetal hematopoietic stem cells in utero: the creation of hematopoietic chimeras," Science, Vol. 233 (1986).
A24	Fajfar-Whetstone, C.F., et al., "Sex Determination of Porcine Seguecence," Anim. Biotech., 4:183-193 (1993).
A23	Evans, M.J., et al., "Establishment in culture of pluripotential cells from mouse embryos," Nature, 292:154-156 (1981).
OTHER ART (including Author, Title, Date, Pertinent Pages, etc.)	

FORM PTO-1449	LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT	(use several sheets if necessary)
SERIAL NO.	CASE NO.	APPLICANT(S): Matthew B. Wheeler
08/410,539	7823/5	FILING DATE March 24, 1995
APPENDIX	GROUP ART UNIT	

4

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered.

Include copy of this form with next communication to applicant.

EXAMINER	B. (initials)	DATE CONSIDERED 3/3/97
----------	---------------	------------------------

<p>A44 Mintz, B., Science, 148, 1232-3 (1965).</p> <p>A43 McLaren, A., et al., Nature, 224, pp. 238-240 (1969).</p> <p>A42 Martin, P., et al., "Improvement of milk protein quality by gene technology," Livestock Production Science, 35:95-115 (1993).</p> <p>A41 Martin, G.R., "Isolation of a pluripotent cell line from early mouse embryos cultured in medium conditioned by teratocarcinoma stem cells," Proc. Natl. Acad. Sci. USA, 78(12):7634-7638 (1981).</p> <p>A40 Martin, G.R., "Teratocarcinomas and mammalian embryogenes," Science, 209:768-776 (1980).</p> <p>A39 Mansouri, et al., "Disruption of the proto-oncogene int-2 in mouse embryo-derived stem cells: A general strategy for targeting mutagenic mutations to non-selectable genes," Nature, 336:348-352.</p> <p>A38 Lewin, H.A., et al., "Mapping genes for resistance to infections in animals," Marcel Dekker, Inc., 13:283-304 (1991).</p> <p>A37 Kollias, G., et al., "The study of gene regulation in transgenic mice," Transgenic Animals, p. 92, Rovelli, et al., eds., Academic Press Limited (1992).</p> <p>A36 Karg, H., "Manipulation of growth," in Biotechnology for Livestock Production, Plenum Press, New York and London, 18:159-180 (1989).</p> <p>A35 Karg, H., "Manipulation of lactation," in Biotechnology for Livestock Production, Plenum Press, New York and London, 19:181-206 (1989).</p> <p>A34 Jeannotte, et al., "Low level of Hox1.3 gene expression does not preclude the use of promoters vectors to generate a targeted gene disruption," Molecular and Cellular Biology, 11(11):5578-5585.</p>	
OTHER ART (Including Author, Title, Date, Pertinent Pages, etc.)	

APPENDIX LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT	(USE SEVERAL sheets if necessary)	
	APPLICANT(S): Matthew B. Wheeler	
SERIAL NO.	CASE NO.	08/410,539 7823/5
FILING DATE	GROUP ART UNIT	March 24, 1995

5

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered.

EXAMINER	G. L. Hause	DATE CONSIDERED 3/13/97
----------	-------------	----------------------------

OTHER ART (Including Author, Title, Date, Pertinent Pages, etc.)		
A45 Morgenthaler and Land, Nucleic Acids Res., 18:3587-3596 (1990). Mortenbein, et al., "Production of homozgous mutant ES cells with a singe targeting construct," Molecular and Cellular Biology, 12(5):2391-2395 (1992). Nicchols, J., et al., "Establishment of germ-line-competent embryonic stem (ES) cells using differentiation inhibiting activity," Development, 110:1341-1348 (1990). Notaranni, B., et al., "Maintenance and differentiation in blastocysts," J. Reprod. Fertil., Suppl. 41:51-56 (1990). Papalopanou, V.E., et al., "Growth and differentiation of an embryonal carcinoma cell line (C145b)," J. Embryol. exp. Morphol., 54, pp. 277-295 (1979). Phillips, R.W., et al., "Mutants in Swine in Blomedical Research," ed. Tumbleson, M.B., Vol. 1 (Plenum Press, New York), (1986). Pederhita, J.A., et al., "Influence of Peeder Layer Type on the Efficiency of Isolation of Porcine Embryo-Derived Cells," Embryos, Theriogenology, 34(5):865-877 (1990). Pederhita, J.A., et al., "On the Isolation of Embryonic Stem Cells: Comparative Behavior of Murine, Porcine and Ovine Lines," Theriogenology, 34(5):879-901 (1990). Polge, C., "Embryo Transplantation and Preservation," pp. 277-291 in Control of Pig Reproduction, Colle, D.J.A., et al., eds., Butterworth Scientific, London (1982). Robertson, E., et al., "Germ-line transmission of genes introduced into cultured pluripotential cells by retroviral vector, "Nature, 323:445-448 (1986). Robertson, E.J., "Pluripotential stem cell lines as a route into the mouse germ line, "Trends Genet., 2:9-13 (1987).		

LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT	(use several sheets if necessary)	
SERIAL NO.	CASE NO.	APPLICANT(S): Matthew B. Wheeler
FILING DATE March 24, 1995	GROUP ART UNIT	
08/410,539	7823/5	

6

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered.

Include copy of this form with next communication to applicant.

EXAMINER	G. C. Williams	DATE CONSIDERED	3/13/97
----------	----------------	-----------------	---------

A64	Stevens, I.C., "The development of transplatable teratocarcinomas from intratrabecular grafts of pre- and post-implantation mouse embryos," Dev. Biol., 21, 364-382 (1970).		
A63	Smith, A.G., et al., "Buffy Rat Liver Cells Produce a Differentiable Activity which Inhibits the Differentiation of Murine Embryonal Carcinomas and Embryonic Stem Cells," Dev. Biol., 121:9 (1987).		
A62	Sims, M.M., et al., "Production of Retuses from Totipotent Cultured Bovine Inner Mass Cells," Theriogenology, 39:313 (1993).		
A61	Schook, L.B., et al., "Mapping Genes for Growth and Development," 4:75-92, in Growth of the Pig, ed. Hollis, CAB International, Wallingford, UK (1993).		
A60	Rudnicki, M.A., et al., "Teratocarcinomas and Embryonic Stem Cells: A Practical Approach," Methods and Induction of Differentiation in Embryonal Carcinoma Cell Lines, pp. 19-49, ed. Robertson, IRL Press Ltd., Oxford, England (1987).		
A59	Rossant, J., et al., "The relationship between embryonal carcinoma and embryo-derived stem cells," Cell Differentiation, 15:155-161 (1984).		
A58	Rossant, J., et al., "The development of a pluripotent male teratocarcinoma cell line after blastocyst injection," Embryo, exp. Morph., 70, 99-112 (1982).		
A57	Rohrer, G.A., Alexander, L.J., Keele, J.W., Smith, T.P., Beattie, C.W., "A Microsatellite Linkage Map of the Porcine Genome," Genetics, 136:231-245 (1994).		
A56	Rohrer, G.A., "Embryo-derived stem cell lines," Teratocarcinomas and Embryonic Stem Cell Lines, A Practical Approach, Chap. 4(4.4.2):92, ed. Robertson, E.J., IRL Press (1987).		
OTHER ART (including Author, Title, Date, Pertinent Pages, etc.)			

FORM PTO-1449	LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT	(use several sheets if necessary)
SERIAL NO.	CASE NO.	APPLICANT(S): Matthew B. Wheeler
08/410,539	7823/5	FILING DATE March 24, 1995
		GROUPE ART UNIT

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

EXAMINER	3/13/97	DATE CONSIDERED
----------	---------	-----------------

A65 Strojek, R.M., et al., "A Method for Cultivation of Porcine Blastoocytes," Theriogenology, 33(4):901-913 (1990). A66 Talbot, N.C., et al., "Alkaline Phosphatase Staining of Pig and Sheep Epiblast Cells in Culture," Molecular Reproduction and Development, 36:139-147 (1993). A67 Thomas, et al., "High-Fidelity gene targeting in embryonic stem cells by using sequence replacement vectors," Molecular Biology Cell, 12(7):2919-2923 (1992). A68 Thomas, K.R., et al., "Site-Directed Mutagenesis by Gene Targeting in Mouse Embryo-Derived Stem Cells," Biol. 51:503-512 (1987). A69 Wall, R.J., et al., "High-Level synthesis of heterologous milk protein in the mammary gland of transgenic swine," Proc. Natl. Acad. Sci. USA, 88, 1696-1700 (1991). A70 Ware, C.B., et al., "Development of embryonic stem cell lines from farm animals," Biology of Reproduction, supplement, Vol. 38 (1988). A71 Webel, S.K., et al., "Synchronous and asynchronous transfer of embryos in the pig," J. Animal Science, 30:565-568 (1970). A72 Wobus, A.M., et al., "Characterization of a pluripotent stem cell line derived from a mouse embryo," Exp. Cell Res., 152:212-219 (1984). A73 Wurst, W., et al., "Production of targeted embryonic stem cell clones," Gene Targeting A Practical Approach, P. 33, Joyner, A.L., ed., IRL Press (1993). A74 Yates, et al., Nature, 313:811-815 (1985).		
---	--	--

OTHER ART (including Author, Title, Date, Pertinent Pages, etc.)

LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT		(use several sheets if necessary)	
SERIAL NO.	CASE NO.	FILING DATE	APPLICANT(S): Matthew B. Wheeler
08/410,539	7823/5	March 24, 1995	GROUP ART UNIT